Energy $aving Tips

We spend hundreds of dollars on our homes each year, some of the dollars are spent on new products, some on repairs, and some on efficiency projects. You really should look at your mortgage and your utility bills as one big bill that arrives month after month. You can either pay the utilities or pay for some higher technology equipment which will make your home more comfortable, more valuable, and will improve our environment. Let's discuss several measures, in order of cost, that are effective at lowering your energy utility bill.

Filtration is important for air quality and the energy-efficiency of your heating & cooling system.

Change your **air conditioner/heater filter as suggested by the manufacturer** and at a minimum switch to a pleated cloth-type filter (*electrostatic air filters are not recommended*). For premium air quality, switch to an electronic air cleaner ($600). A dirty filter can cause pressure imbalances in your ducts and place your AC system under stress, shortening its life and lowering the efficiency.

http://southface.org/home/sfpubs/doctor/doctr425.html

Easy and inexpensive *$3-6/filter*

Air leakage, or infiltration, is a major problem in both new and older homes. Besides wasting hundreds of dollars on energy bills, air leakage paths can cause building durability problems, increase the risk of fire spread, permit insect and rodent entry, and create unhealthy indoor air quality. ***http://www.southface.org/*** See fact sheets

Seal all metal ductwork joints with mastic. Mastic is a fiber-reinforced joint compound available at most home improvement stores. Mastic can be wiped on by hand or with a paint brush. Leaky ductwork can account for 10-30% of total heating and cooling costs.

Messy/ time consuming/ inexpensive *$15/gallon (1-2 gal. should do)*

Seal all electrical and plumbing penetrations in your house with mastic or expanding foam. Also seal around all windows, inside and out, with silicone caulk. Seal your electrical outlets and wall switches too. Focus your efforts on sealing the attic and floors first, as the walls represent a less serious problem.

Moderate mess and time/ low cost *$4/tube caulk ($40-50)*

Install Insulation and save money! Standard density materials such as fiberglass batts and loose-fill materials do not seal effectively against air leaks. As air moves through your insulation, the insulation loses its effectiveness. Insulation is rated using an 'R' value, but the rating assumes no air flow through the insulation. All insulations are not equal in how effective they can be when actually installed. There are several types of insulations available:

http://www.eren.doe.gov/consumerinfo/energy_savers/insulation.html

Fiberglass: Standard fiberglass provides little reduction of air leakage, so seal holes before insulating.

Cellulose: Cellulose insulation is ground, recycled newsprint that's fire and pest retardant. Cellulose makes a good air seal, so the R-value is maintained better.

Spray-in-place foams: Fairly new to the market in the SE, spray foam insulations can be 99% air and 1% plastic with no formaldehyde or significant off gassing. The Lung Association Health House in Orlando, Florida used this as their insulation.

Cotton or Rock Wool: Cotton batts are made from recycled textile scraps.

Hot work/ moderate cost dependent *up to $1.50/ft^2 for R30 attic application*

Compact Fluorescent. – One of the easiest retrofits that you can do yourself, is to switch from incandescent light bulbs to Compact Fluorescents. While incandescent bulbs are inexpensive to purchase, they are inefficient and costly to operate. With an incandescent bulb, for every $1 you spend on electricity, you get about 10 cents worth of light and 90 cents worth of heat. The wasted energy increases lighting and air conditioning costs and is responsible for over 500 pounds of atmospheric pollution. *http://www.lrc.rpi.edu/Ltgtrans/Residential/consumer.html*

1-27 watt compact fluorescent (CFL) puts out the same light as a 100 watt incandescent and over 10,000 hours you'll spend $41.00 on the CFL and $104.00 on the incandescent. So, which one is more expensive? Buy 1 per month and install in the lamp you use most!

Easy/ low cost *1-CFL is $10.00-14.00*

Furnace, heat pump or air conditioner -- Many people want to know what brand they should buy. While quality varies between brands, the more important considerations are choosing equipment that is properly sized with a good efficiency rating, and choosing a knowledgeable contractor. If either the sizing or the efficiency of your system is wrong, it matters little what name is on the case. To size an air conditioner the contractor must perform a blower-door test on the house and run the manual J heat-load model. There may be a nominal charge for the blower door test.

You should consider air conditioner and/or heat pumps that are at least 12 SEER and furnaces rated at least 90 AFUE. Look for the ENERGY STAR® label. This label assures that you are "Saving the Earth and Saving your Money". You can save up to 30% on energy bills! In an Atlanta home of 200 ft2 you should save about $350 per year. *http://www.epa.gov/hvac.html*

Complex/ high cost *$4, 000 to 12, 000 for entire HVAC system*

Incremental cost for extra energy efficiency about $1-2k

High performance windows - (low-e coatings, argon gas-filled, warm-edge technology, insulating frame materials) will save you money, increase your comfort, reduce glare and noise, increase the value of your home and assist with better indoor air quality. Look for a long term transferrable warranty on these high quality replacement windows. Low-E coatings reflect heat, Argon gas is a sound and temperature insulator, and 'warm-edge' keeps the temperature outside from moving inside. *http://www.efficientwindows.org/*

What else to do? 1) Use curtains and blinds on existing windows to block significant heat gain. 2) Add windows films to reduce heat gain. And/or 3) Caulk around all windows. Ultimately and most expensively - Install new ENERGY STAR® replacement windows for maximum energy-efficiency.

Complex/high cost for the Low-E/argon/vinyl *$550.00/window installed in Atlanta*

Appliances and your Water Heater need attention too! Higher efficiency appliances cannot always be purchased at your local home improvement center. You may need to seek out specialty distributors. It will be worth your time to do a little extra homework. Look for appliances wearing the ENERGY STAR® label. Buy gas water heaters with at least a 0.63 energy factor (ef) or better. *http://www.eren.doe.gov/buildings/consumer_information/*

http://www.epa.gov/energystar

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